ABS ACTA BIOLOGICA SIBIRICA
A journal on the biodiversity of Siberia and the adjacent lands

Acta Biologica Sibirica 6: 249–277 (2020)
doi: 10.3897/abs.6.e54151
https://abs.pensoft.net

RESEARCH ARTICLE

Materials on the fauna of true bugs (Heteroptera) of East Kazakhstan Region of the Republic of Kazakhstan

Nikolay N. Vinokurov[1], Valentin V. Rudoi[2]

1 *Institute for Biological Problems of Cryolithozone, Siberian Branch RAS, 41 Lenin Av., Yakutsk, 677980, Russia*
2 *Altai State University, 61 Lenin Av., Barnaul, 656049, Russia*

Corresponding author: Nikolay N. Vinokurov (vinok@ibpc.ysn.ru)

Academic editor: R. Yakovlev | Received 10 March 2020 | Accepted 12 April 2020 | Published 18 September 2020

http://zoobank.org/BD65A575-E6AB-4E97-B3EB-199B17BA64A9

Citation: Vinokurov NN, Rudoi VV (2020) Materials on the fauna of true bugs (Heteroptera) of East Kazakhstan Region of the Republic of Kazakhstan. Acta Biologica Sibirica 6: 249–277. https://doi.org/10.3897/abs.6.e54151

Abstract

New data on the distribution of 101 species from 16 Heteroptera families in the East Kazakhstan Region of the Republic of Kazakhstan are reported. Twelve species are recorded for the first time from the study area: *Nabis nigrovittatus steppensis* (Kerzhner, 1981) (Nabidae), *Deraeocoris ater* (Jakovlev, 1889), *Orthops mutans* (Stål, 1858), *Oncotylus setulosus* (Herrich-Schaeffer, 1837) (Miridae), *Dictyla humuli* (Fabricius, 1794) (Tingidae), *Coranus aethiops* Jakovlev, 1893 (Reduviidae), *Aradus crenaticollis* R.F. Sahlberg, 1848 (Aradidae), *Horvathiolus superbus* (Pollish, 1781), *Acompus rufipes* (Wolff, 1804), *Acanthosoma denticaudum* (Jakovlev, 1880) (Acanthosomatidae), *Rubiconia peltata* Jakovlev, 1890, and *Eurydema fieberi* Fieber, 1837 (Pentatomidae). Based on the latest data, the fauna of true bugs of the East Kazakhstan Region comprises 482 species from 25 families.

Keywords

Insects, bugs, Heteroptera, Kazakhstan, East Kazakhstan Region

Copyright *Nikolay N. Vinokurov, Valentin V. Rudoi.* This is an open access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0), which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Introduction

The East Kazakhstan Region occupies vast territory in the eastern part of the Republic of Kazakhstan with an area of 283000 square km. Its relief is a complex combination of the plains, small hills ("melkosopochnik"), and mountain massifs in the north-east and east (South Altai, Tarbagatai, and Saur) – Figs 1–4. The regional river system belongs to the basin of the largest water body of the area – the Irtysh River and its tributaries, as well as to the Lake Balkhash basin. The largest lakes in the area are Zaisan, Markakol', Alakol', and Sasykkol'. The climate is sharply continental because of the position of the territory in the center of the Asian continent far from large sea basins (Sidorenko 1957). The insect fauna of East Kazakhstan is highly diverse: its includes the well-represented steppe fauna, the taiga and intrazonal meadow and forest species penetrate the area from the north, and the desert and semi-desert fauna is quite developed in the south.

Figure 1. South Altai, Kyzylebltau Mts., gorge of the Eginsu River (photo by V.V. Rudoi).

Heteroptera in Kazakhstan have been investigated for a long time by the specialists of the Institute of Zoology of the Republic of Kazakhstan, Almaty, and of the Zoological Institute of the Russian Academy of Sciences, St. Petersburg, where voluminous collections on this group have been accumulated. A valuable contribution to the knowledge of the Heteroptera in East Kazakhstan was made by a scientist

Figure 2. Kalbinsky Mt. Range (photo by V.V. Rudoi).

Figure 3. The Emel River valley, Lake Alakol basin (photo by V.V. Rudoi).

Figure 4. Midlands of the Saur Mt. Range (photo by V.V. Rudoi).

of the Kazakhstan Institute of Zoology R.B. Asanova (Asanova 1974, 1986, 1996), who gave the first synopsis of the distribution of 439 species from 25 families in East Kazakhstan. Later, P.A. Esenbekova (Esenbekova 2007, 2011, 2013) recorded from this region 219 species of 19 families.

In this paper we provide data on 101 species of 16 heteropterous families based on the collections made in the East Kazakhstan Region by the students and professors of the Altai State University, Barnaul.

Material and methods

Field research of the heteropterans in the East Kazakhstan Region was carried out by students of the Altai State University in 2016–2019 under the guidance of Professor R.V. Yakovlev (Fig. 5). In the northern part of the region, V.V. Rudoi investigated the surroundings of the Shemonaikha Town in 2016 and 2018. In Southern Altay, G.M. Amanbayeva, A.U. Gabdulina, G.N. Kuftina and E.A. Nepaeva collected bugs on the Sarym-Saktyi in the Katon-Karagai National Nature Park in 2016 and 2017. Expedition of the Altai State University worked in 1918 on Kalbinskii Mt. Range, Tarbagatai and Saur (R.V. Yakovlev, V.V. Doroshkin, A.E. Naidenov and V.V. Rudoi), and in 2019, at the Lake Zaisan and in Tarbagatai (R.V. Yakovlev, A.A. Kechaikin, A.A. Fomichev and V.V. Rudoi).

Collecting was made using common methods (Fasulati 1971; Golub et al. 2012), net-sweeping herbaceous and arboreal vegetation and shrubs. The material collected amounts 403 specimens of bugs.

The following abbreviation was made in the label data:

– Uryl Vill., Katon-Karagai State National Nature park – Uryl Vill.;

– coordinates were omitted for the following localities: Akmarbak Vill. (49°33'05"N, 85°30'31"E); Arasantau Mts., 11 km ESE of Karabulak Vill. (46°07'N, 82°19'E); Berelsk Vill. (49°30'37"N, 86°26'40"E); Korobikha Vill. (49°27'32"N, 85°03'14"E); Matombaj Vill. (48°39'N, 85°39'E); Topkain Vill. (49°13'53"N, 85°21'44"E); Uryl Vill., Katon-Karagai SNNP (49°19'17"N, 86°21'45"E); Rakhman's Spring (49°32'09"N, 86°27'57"E); Rakhmanovsk (49°32'14"N, 86°30'15"E); Shemonaikha Town (50°35'N, 81°54'E; 50°36'N, 81°55'E; 50°37'N, 81°57'E; 50°40'N, 81°56'E);

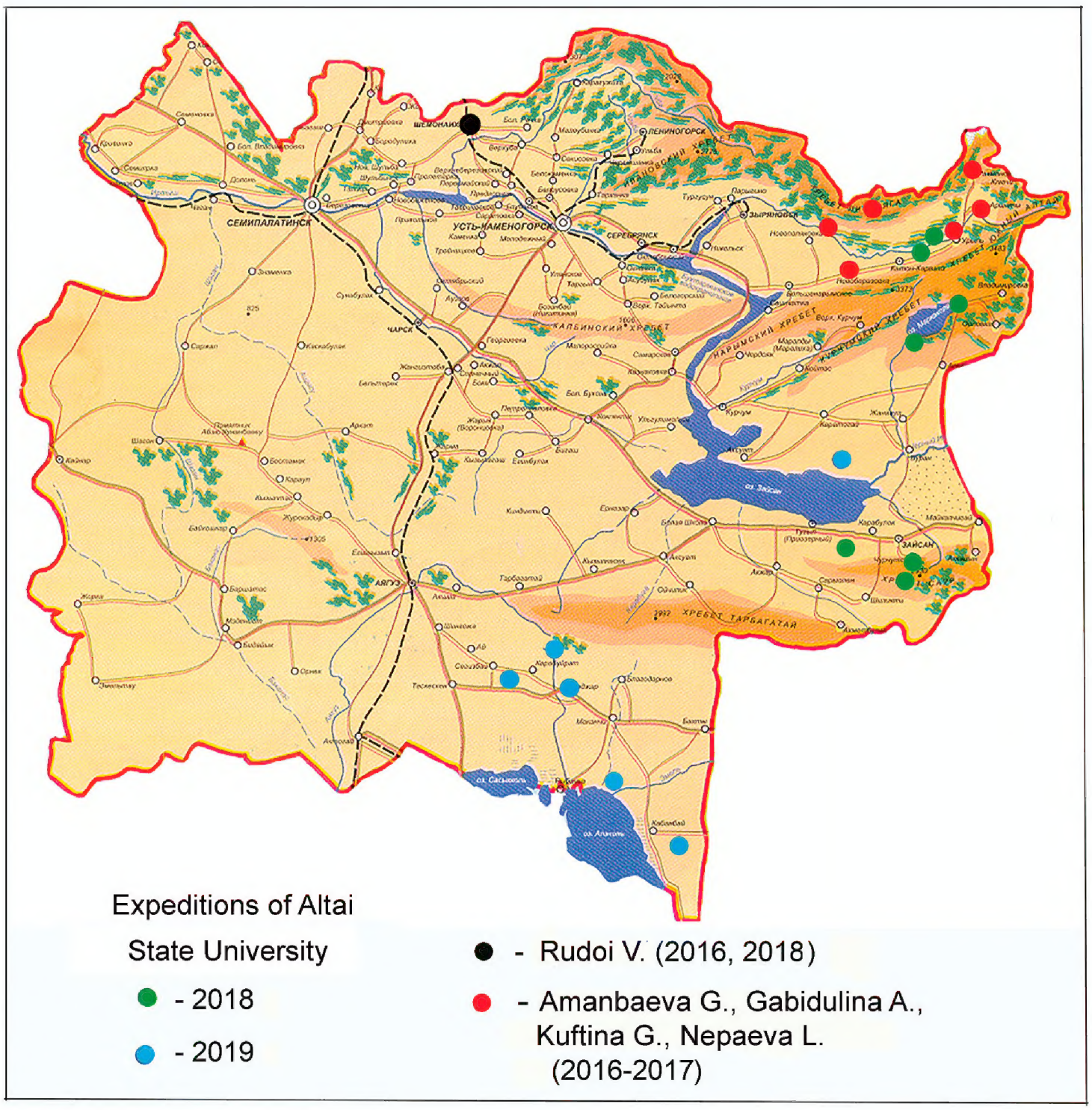


Figure 5. Collection points of bugs in the East Kazakhstan Region.

15 km SSW of Karabulak Vill. (47°24'N, 84°38'E); 24 km NNW of Karabulak Vill. (46°21'41"N, 82°05'04"E); 5 km SW of Nekrasovka Vill. (47°11'N, 81°21'E); 2 km W of Kenderlik Vill. (47°28'N, 85°12'E); 40 km NW of Kokpekty Vill. (49°00'N, 82°00'E); 20 km SSE of Zaisan Vill. (47°22'N, 85°09'E); 6 km NW of Kyzylzhuldyz Vill. (47°11'N, 80°56'E); 11 km ESE of Karabulak Vill. (46°06'N, 82°19'E); Urdzhar (47°05'16"N, 81°37'47"E); 20 km SSE of Zaisan Vill. (47°22'N, 85°09'E).

– family names of the members of the expeditions of 2018 (R.V. Yakovlev, V.V. Doroshkin, A.E. Naidenov and V.V. Rudoi) and 2019 (R.V. Yakovlev, A.A. Kechaikin, A.A. Fomichev, Yu.V. Dyachkov and V.V. Rudoi) are omitted.

Results

Annotated list of the Heteroptera of East Kazakhstan Region

Family Nepidae Latreille, 1802

Nepa cinerea Linnaeus, 1758

Material. Arasantau Mts., 11 km ESE of Karabulak Vill., H = 630 m. 5–7.05.2019, 2 males, 2 females.

Distribution. Transpaleartcic. Recorded from East Kazakhstan Region (Asanova 1986).

Family Nabidae A. Costa, 1853

Nabis flavomarginatus Scholtz, 1847

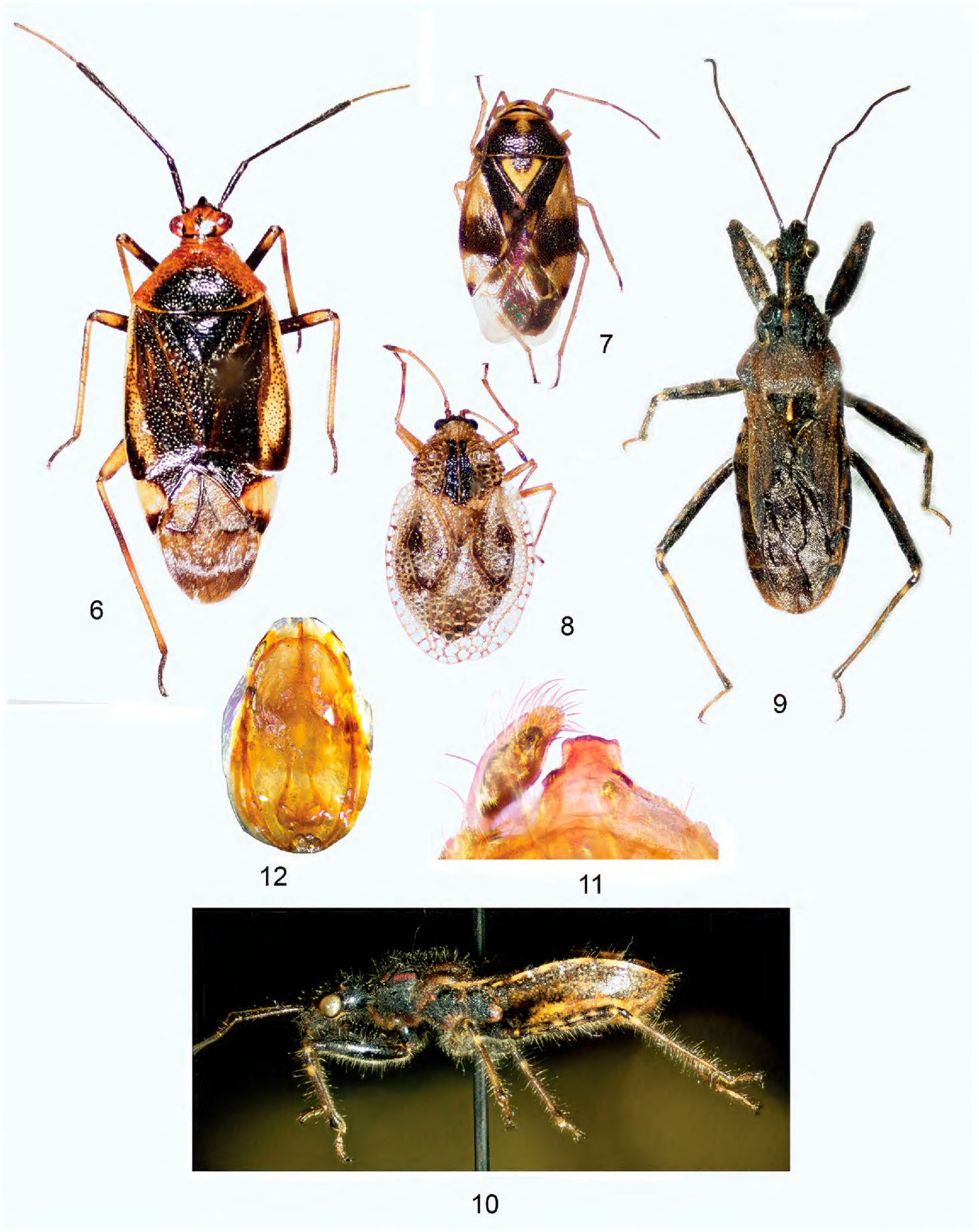
Material. KorobihaVill., 4.07.2017 (G. Kuftina, E. Nepaeva, 1 male); Topkain Vill., 4.07.2017 (G. Kuftina, E. Nepaeva), 1 male; Uryl Vill., H = 1057 m, 7.07.2017 (G. Kuftina, E. Nepaeva), 1 female; Rakhmanovsk, H = 1808–1829 m, 26.07.2017 (G. Amanbaeva), 7 males, 15 females.

Distribution. Holarctic. Recorded from the East Kazakhstan Region (Asanova 1986, Esenbekova 2013).

Nabis nigrovittatus steppensis (Kerzhner, 1981)

Material. Kyzylbeltau Mts., 5 km SW of Nekrasovka Vill., H = 1100 m, 5–7.05.2019, 1 female.

Distribution. Sic-Black Sea and Kazakhstan steppe. First record from East Kazakhstan Region.



Figures 6–12. Heteroptera of the East Kazakhstan Region: **6** – *Deraeocoris ater* Jak., **7** – *Orthops mutans* Stål, **8** – *Dictyla humuli* F., **9–12** – *Coranus laticeps* Wagn. (**9** – dorsal view, **10** – lateral view, **11** – paramere and process of pygofer posteriorly, **12** – teca of aedeagus dorsally). (Orig.).

Nabis brevis brevis Scholtz, 1847

Material. Shemonaikha Town, H = 315 m, 28.08.2016 (V. Rudoi), 11 male, 16 females.

Distribution. Euro-Siberian. Recorded from the East Kazakhstan Region (Asanova 1986, Esenbekova 2013).

Nabis punctatus mimoferus Hsiao, 1964

Material. Shemonaikha Town, H = 315 m, 7.08.2016 (V. Rudoi), 1 male.

Distribution. East Palearctic steppe. Recorded from East Kazakhstan (Asanova 1986, Esenbekova 2013). R.B. Asanova (1986) given this ubiquitous species as *N. feroides* Remane, 1953 and *N. punctatus* A. Costa, 1847.

Nabis rugosus (Linnaeus, 1758)

Material. Shemonaikha Town, H = 315m, 28.08.2016 (V. Rudoi), 2 males, 4 females.

Distribution. From West Europe to Enisei River and Altai Mts. Recorded from the East Kazakhstan Region (Asanova 1986, Esenbekova 2013).

Family Miridae Hahn, 1833

Deraeocoris ater (Jakovlev, 1889)

Figure 6

Material. Uryl Vill., H = 1057 m, 7.07.2017 (G. Kuftina, E. Nepaeva), 1 male.

Distribution. East Palaearctic. First record from East Kazakhstan Region.

Adelphocoris lineolatus (Goeze, 1778)

Material. Shemonaikha Town, H = 315 m, 3–28.08.2016 (V. Rudoi), 11 male, 16 females; Katon-Karagai, H = 1050 m, 3.07.2017 (G. Kuftina, E. Nepaeva), 2 females; 15 km SSW of Karabulak Vill., H = 800 m, 26.06.2018, 2 males, 2 females; 20 km SEE of Zaisan Town, H = 1225–1250 m, 20.06.2018, 1 male.

Distribution. Transpalaearctic. Recorded from the East Kazakhstan Region (Asanova 1986, Esenbekova 2013).

Adelphocoris seticornis (Fabricius, 1775)

Material. Topkain Vill., 4.07.2017 (G. Kuftina, E. Nepaeva), 1 male, 1 female.

Distribution. Euro-Siberian. Recorded from the East Kazakhstan Region (Asanova 1986, Esenbekova 2013).

Brachycoleus decolor Reuter, 1887

Material. Uryl Vill., H = 1057 m, 7.07.2017 (G. Kuftina, E. Nepaeva), 1 male.

Distribution. Trans-Euroasian. Recorded from the East Kazakhstan Region (Asanova 1986).

Lygus pratensis (Linnaeus, 1758)

Material. 24 km NNW of Karabulak Vill., H = 360 m, 4–5.05.2019, 1 female; Kyzylbeltay Mts., 5 km SW of Nekrasovka Vill., H = 1100 m, 5–7.05.2019, 1 female; Arasantau Mts., 11 km ESE of Karabulak Vill., H = 630 m. 5–7.05.2019, 3 females.

Distribution. West-Central Palaearctic. Recorded from the East Kazakhstan Region (Asanova 1986, Esenbekova 2013).

Lygus rugulipennis Poppius, 1911

Material. Uryl Vill., 6.07.2017 (G. Kuftina, E. Nepaeva), 1 female; Akmarbak Vill., H = 1347 m, 24.07.2017 (A. Gabdulina), 1 male, 2 females; Berelsk Vill., H = 1856–1918 m, 6–23.09.2017 (G. Amanbaeva) 2 males, 2 females; Rakhmanovsk, H = 1808–1829 m, 26.07.2017, (G. Amanbaeva), 1 male, 1 female.

Distribution. Holarctic. Recorded from the East Kazakhstan Region (Asanova 1986).

Orthops mutans (Stål, 1858)

Figure 7

Material. Uryl Vill., H = 1127 m, 6.07.2017 (G. Kuftina, E. Nepaeva), 1 female.

Distribution. South Siberia, Mongolia, China. – Introduced to North America. First record from East Kazakhstan Region.

Polymerus brevicornis (Reuter, 1879)

Material. Shemonaikha Town, H = 315 m, 7–28.08.2016 (V. Rudoi), 1 male, 2 females.

Distribution. Trans-Euroasian. Recorded from the East Kazakhstan Region (Asanova 1986).

Polymerus unifasciatus (Fabricius, 1794)

Material. Akmarbak Vill., H = 1347 m, 24.07.2017 (A. Gabdulina), 1 female; Uryl Vill., H = 1795 m, 9.07.2017 (G. Kuftina, E. Nepaeva), 1 female.

Distribution. Holarctic Recorded from the East Kazakhstan Region (Asanova 1986, Esenbekova 2013).

***Stenotus binotatus* (Fabricius, 1794)**

Material. Korobiha Vill., 4.07.2017 (G. Kuftina, E. Nepaeva), 1 female; Uryl Vill., H = 1127 m, 7.07.2017 (G. Kuftina, E. Nepaeva), 1 male.

Distribution. Trans-Euroasian. – Introduced to North America, Hawaii, New Zealand. Recorded from the East Kazakhstan Region (Asanova 1986).

***Stenodema calcarata* (Fallén, 1807)**

Material. Akmarbak Vill., H = 1347 m, 24.07.2017 (A. Gabdulina), 1 female.

Distribution. Transpaleartcic. Recorded from East Kazakhstan Region (Asanova 1986, Esenbekova 2013).

***Trigonotylus caelestialium* (Kirkaldy, 1902)**

Material. Shemonaikha Town, H = 310 m, 3.08.2016 (V. Rudoi), 1 male.

Distribution. Holarctic. Recorded from the East Kazakhstan Region (Asanova, 1986).

***Labops sahlbergii* (Fallén, 1829)**

Material. Topkain Vill., 4.07.2017 (G. Kuftina, E. Nepaeva), 1 female; Akmarbak Vill., H = 1347 m, 24.07.2017 (A. Gabdulina), 2 males, 3 females; Uryl Vill., Rakhman's spring, H = 1724 m, 10.07.2017 (G. Kuftina, E. Nepaeva), 2 females.

Distribution. Trans-Euroasian. Recorded from the East Kazakhstan Region (Asanova 1986).

***Excentricus planicornis* (Herrich-Scaeffer, 1836)**

Material. Uryl Vill., H = 1057 m, 7.07.2017 (G. Kuftina, E. Nepaeva), 1 male.

Distribution. Transpaleartcic. Recorded from the East Kazakhstan Region (Asanova 1986).

***Macrotylus cruciatus* (R.F. Sahlberg, 1848)**

Material. Uryl Vill., H = 1127 m, 7.07.2017 (G. Kuftina, E. Nepaeva), 1 female.

Distribution. Trans-Euroasian. Recorded from the East Kazakhstan Region (Asanova 1986).

***Oncotylus setulosus* (Herrich-Schaeffer, 1837)**

Material. Shemonaikha Town, H = 310 m, 3.08.2016 (V. Rudoi), 1 male.

Distribution. North & East Mediterranean, south of European Russia, middle Asia, Kazakhstan. First record from East Kazakhstan Region.

Plagiognathus chrysanthemi (Wolff, 1804)

Material. Topkain Vill., 5.07.2017 (G. Kuftina, E. Nepaeva), 1 female; Uryl Vill., H = 1057 m, 7.07.2017 (G. Kuftina, E. Nepaeva), 1 female.

Distribution. Transpaleartcic. Recorded from the East Kazakhstan Region (Asanova 1986).

Family Tingidae Laporte, 1832

Derephysia foliacea foliacea (Fallén, 1807)

Material. Akmarbak Vill., H = 1347 m, 24.07.2017 (A. Gabdulina), 1 male.

Distribution. Holarctic. Recorded from the East Kazakhstan Region (Asanova 1986).

Dictyla echii (Schrank, 1782)

Material. Topkain Vill., 5.07.2017 (G. Kuftina, E. Nepaeva), 1 male.

Distribution. Holarctic. Recorded from the East Kazakhstan Region (Asanova 1986).

Dictyla humuli (Fabricius, 1794)

Figure 8

Material. Akmarbak Vill., H = 1347 m, 24.07.2017 (A. Gabdulina), 1 male, 1 female.

Distribution. Holarctic. First record from East Kazakhstan Region.

Family Reduviidae Latreille, 1807

Phymata crassipes (Fabricius, 1775)

Material. Shemonaikha Town, H = 315 m, 28.08.2016 (V. Rudoi), 1 female; 20 km SEE of Zaisan Town, H =1225–1250 m, 20.06.2018, 1 female; Kalba Mts., 40 km NW of Kokpekty Vill., H = 760 m, 19.06.2018, 1 male; Kyzylbeltay Mts., 5 km SW of Nekrasovka Vill., H = 1100 m, 5–7.05.2019, 1 female.

Distribution. Transpaleartcic. Recorded from the East Kazakhstan Region (Asanova 1986).

Rhynocoris iracundus (Poda, 1761)

Material. Saur Mts., Kenderlik River Valley (left bank), 2 km W of Kenderlik Vill., H = 740 m, 24.06.2018, 3 females.

Distribution. From Europe & East Mediterranean to south of West Siberia, north-West China – Kashmir. Recorded from the East Kazakhstan Region (Putshkov 1987).

Figures 13–19. Heteroptera of the East Kazakhstan Region: **13** – *Aradus crenaticollis* R.F. Sahlb., 14 – *Acompus rufipes* Wolff., **15, 16** – *Acanthosoma denticaudum* Jak. (**15** – male, **16** – male genital segment ventrally), **17, 18** – *Rubiconia peltata* Jak. (**17** – male, **18** – buccula laterally), **19** – *Eurydema fieberi* Fieb. (Orig.).

***Coranus aethiops* Jakovlev, 1893**

Material. Berelsk Vill., 27.09.2017 (G. Amanbaeva) 1 female.

Distribution. Euro-Siberian. First record from East Kazakhstan Region.

***Coranus laticeps* Wagner, 1952**

Figures 9–12

Material. 15 km SSW of Karabulak Vill., H = 800 m. 26.06.2018, 1 male, 2 females.

Distribution. Steppe of Europe & Kazakhstan. Recorded from the East Kazakhstan Region (P.V. Putshkov 1987). According to P.V. Putshkov, *C. laticeps* is a background species in Kazakhstan steppe mainly associated with sandy soils.

Family Aradidae Brúlle, 1836

Aradus crenaticollis R.F. Sahlberg, 1848

Figure 13

Material. Berelsk Vill., 11.07–23.09.2017 (G. Amanbaeva), 2 females.

Distribution. Holarctic. First record from East Kazakhstan Region.

Family Lygaeidae Schilling, 1829

Lygaeus equestris Linnaeus, 1758

Material. Ushbulak Mts., 6 km NW of Kyzylzhuldyz Vill., H = 690 m., 2–4.05.2019, 1 male; Arasantau Mts., 11 km ESE of Karabulak, 5–7.05.2019, 1 female.

Distribution. Transpaleartcic. Recorded from the East Kazakhstan Region (Asanova 1986).

Horvathiolus superbus (Pollish, 1781)

Material. 11 km ESE of Karabulak Vill., 5–7.05.2019 (R. Yakovlev), 3 males, 3 females.

Distribution. West-Central Palearctic. First record from East Kazakhstan Region.

Nithecus jacobaeae (Schilling, 1829)

Material. Uryl Vill., Rakhman's spring, H = 1057–1724m, 7–10.07.2017 (G. Kuftina, E. Nepaeva), 1 male, 3 females; Berelsk Vill., H = 1856–1910 m, 10.07–6.09.2017 (G. Amanbaeva), 16 females; Rakhmanovsk, 27.09.2016 (G. Amanbaeva), 3 males, 4 females.

Distribution. Transpaleartcic. Recorded from the East Kazakhstan Region (Asanova 1986).

Nysius helveticus (Herrich-Schaeffer, 1850)

Material. Shemonaikha Town, 1–28.08.2016 (V. Rudoi), 3 males, 1 female.

Distribution. Trans-Euroasian. Recorded from East Kazakhstan Region (Asanova 1986, Esenbekova 2013).

Ortholomus punctipennis (Herrich-Schaeffer, 1838)

Material. Shemonaikha Town, 1–08.08.2016 (V. Rudoi), 3 males, 13 females; Akmarbak, H = 1347 m, 24.07.2017 (A. Gabdulina), 1 female; Katon-Karagai, H = 1050 m, 3.07.2017 (G. Kuftina, E. Nepaeva), 1 female.

Distribution. Trans-Euroasian. Recorded from the East Kazakhstan Region (Asanova 1986, Esenbekova 2013).

Cymus glandicolor Hahn, 1832

Material. Akmarbak Vill., H = 1347 m, 24.07.2017 (A. Gabdulina), 1 male, 1 female.

Distribution. Trans-Euroasian. Recorded from the East Kazakhstan Region (Asanova 1986, Esenbekova 2013).

Pterotmetus staphyliniformis (Schilling, 1829)

Material. Berelsk Vill., H = 1856 m, 10.08.2017 (G. Amanbaeva), 1 male.

Distribution. Transpaleartcic. Recorded from the East Kazakhstan Region (Asanova 1986, Esenbekova 2013).

Trapezonotus arenarius arenarius (Linnaeus, 1758)

Material. Berelsk Vill., 11.07.2017 (G. Amanbaeva), 1 male.

Distribution. Transpaleartcic. Recorded from the East Kazakhstan Region (Asanova 1986, Esenbekova 2013).

Ligyrocoris sylvestris (Linnaeus, 1758)

Material. Rakhmanovsk, 27.09.2016 (G. Amanbaeva), 1 male.

Distribution. Holarctic. Recorded from the East Kazakhstan Region (Asanova 1986).

Aellopus atratus (Goeze, 1778)

Material. Arasantau Mts., 11 km ESE of Karabulak, 5–7.05.2019 (R. Yakovlev), 1 male, 2 females.

Distribution. West-Central Palearctic. Recorded from the East Kazakhstan Region (Asanova 1986).

Rhyparochromus pini (Linnaeus, 1758)

Material. Shemonaikha Town, H = 306 m, 23–27.08.2016 (V. Rudoi), 1 female.

Distribution. Transpaleartcic. Recorded from the East Kazakhstan Region (Asanova 1986, Esenbekova 2013).

Rhyparochromus vulgaris (Schilling, 1829)

Material. Kyzylbeltay Mts., 5 km SW of Nekrasovka Vill., H = 1100 m, 8–10.05.2019, 3 females.

Distribution. Transpaleartcic. Recorded from the East Kazakhstan Region (Asanova 1986).

***Acompus rufipes* (Wolff, 1804)**
Figure 14

Material. Akmarbak Vill., H = 1347 m, 24.07.2017 (A. Gabdulina), 2 females.

Distribution. Transpaleartcic. First record from East Kazakhstan Region.

Family Pyrrhocoridae Amyot & Serville, 1843

***Pyrrhocoris apterus* (Linnaeus, 1758)**

Material. Ushbulak Mts., 6 km NW of Kyzylzhuldyz Vill., H = 690 m, 2–4.05.2019, 2 females.

Distribution. Transpaleartcic. Recorded from the East Kazakhstan Region (Esenbekova 2013).

Family Stenocephalidae Dallas, 1852

***Dicranocephalus agilis* (Scopoli, 1763)**

Material. Kalba Mts., 40 km NW of Kokpekty Vill., H = 760 m, 19.06.2018, 1 male; 15 km SSW of Karabulak Vill., H = 800 m, 26.06.2018, 1 female.

Distribution. West-Central Palearctic. – Neotropics. Recorded from the East Kazakhstan Region (Asanova 1986, Esenbekova 2013).

Family Coreidae Leach, 1815

***Coreus marginatus marginatus* (Linnaeus, 1758)**

Material. Kyzylbeltay Mts., 5 km SW of Nekrasovka Vill., H = 1100 m, 8–10.05.2019, 3 males; Emel River Valley, 24 km NNW of Karabulak Vill., H = 360 m, 4–5.05.2019, 2 males, 1 female; 15 km SSW of Karabulak Vill., H = 800 m, 26.06.2018, 3 males, 2 females; Saur Mts., Kenderlik River Valley (left bank), 2 km W of Kenderlik Vill., 47°28'N, 85°12'E, H = 740 m, 24.06.2018, 1 male; Ushbulak Mts., 6 km NW of Kyzylzhuldyz Vill., H = 690 m, 2–4.05.2019, 1 male, 4 females.

Distribution. Transpaleartcic. Recorded from the East Kazakhstan Region (Asanova 1986, Esenbekova 2013).

***Coriomeris denticulatus* (Scopoli, 1763)**

Material. Kyzylbeltay Mts., 5 km SW of Nekrasovka Vill., H = 1100 m, 8–10.05.2019, 1 male; Ushbulak Mts., 6 km NW of Kyzylzhuldyz Vill., H = 690 m, 2–4.05.2019, 1 male.

Distribution. West-Central Palearctic. Recorded from the East Kazakhstan Region (Asanova 1986, Esenbekova 2013).

***Coriomeris scabricornis scabricornis* (Panzer, 1805)**

Material. Kyzylbeltay Mts., 5 km SW of Nekrasovka Vill., H = 1100 m, 8–10.05.2019, 1 ex.

Distribution. Trans-Euroasian. Recorded from the East Kazakhstan Region (Asanova 1986, Esenbekova 2013).

***Enoplops sibiricus* (Jakovlev, 1889)**

Material. 15 km SSW of Karabulak Vill., H = 800 m, 26.06.2018, 1 male.

Distribution. Dauro-Mongolian steppe. Recorded from the East Kazakhstan Region (Esenbekova 2013).

***Syromastus rhombeus* (Linnaeus, 1767)**

Material. Shemonaikha Town, H = 317 m, 8.08.2018 (V. Rudoi), 2 males; Kyzylbeltay Mts., 5 km S W of Nekrasovka Vill., H = 1100 m, 5–7.05.2019, 3 males, 1 female; Emel River Valley, 24 km NNW of Karabulak Vill., H = 360 m, 4–5.05.2019,1 male; Arasantau Mts., 11 km. ESE of Karabulak Vill., H = 630 m, 5–7.05.2019, 1 male.

Distribution. West-Central Palearctic. Recorded from the East Kazakhstan Region (Esenbekova 2013).

Family Alydidae Amyot & Serville, 1843

***Alydus calcaratus* (Linnaeus, 1758)**

Material. Shemonaikha Town, 3–8.28.08.2016 (V. Rudoi), 2 males; Topkain Vill., 4.07.2017 (G. Kuftina, E. Nepaeva), 1 female; Uryl Vill., H = 1057 m, 7.07.2017 (G. Kuftina, E. Nepaeva), 1 male; Berelsk Vill., H = 1910 m, 6–27.09.2016 (G. Amanbaeva), 9 males, 1 female; Katon-Karagai, H = 1050 m, 3.07.2017 (G. Kuftina, E. Nepaeva), 9 males.

Distribution. Holarctic. Recorded from the East Kazakhstan Region (Asanova 1986, Esenbekova 2013).

***Camptopus lateralis* (Germar, 1817)**

Material. Kyzylbeltay Mts., 5 km SW of Nekrasovka Vill., H = 1100 m, 5–7.05.2019, 2 males.

Distribution. West-Central Palearctic. – India, Pakistan. Recorded from the East Kazakhstan Region (Asanova 1986, Esenbekova 2013).

Megalotomus ornaticeps (Stål, 1858)

Material. Arasantau Mts., 11 km ESE of Karabulak, 5–7.05.2019 (R. Yakovlev), 1 male.

Distribution. Steppe zone of Euroasia. Recorded from the East Kazakhstan Region (Asanova 1986, Esenbekova 2013).

Family Rhopalidae Amyot & Serville, 1843

Brachycarenus tigrinus (Schilling, 1829)

Material. Shemonaikha Town, H = 315–317 m, 7–8.08.2018 (V. Rudoi), 2 males, 2 females.

Distribution. West-Central Palearctic. Recorded from the East Kazakhstan Region (Asanova 1986, Esenbekova 2013).

Corizus hyoscyami hyoscyami (Linnaeus, 1758)

Material. Kara-Kaba River Valley, H = 1450 m, 1.07.2018, 1 male.

Distribution. Transpaleartcic. Recorded from the East Kazakhstan Region (Asanova 1986, Esenbekova 2013).

Corizus tetraspilus Horváth, 1917

Material. Kyzylbeltay Mts., 5 km SW of Nekrasovka Vill., H = 1100 m, 5–7.05.2019, 1 male, 1 female.

Distribution. East Palaearctic steppe. Recorded from the East Kazakhstan Region (V.G. Putshkov 1986).

Maccevethus errans caucasicus (Kolenati, 1845)

Material. Emel River valley, 24 km NNW Karabulak Vill. H = 360 m, 4–5.05.2019 (R. Yakovlev, V. Rudoi), 1 female.

Distribution. West-Central Palearctic. First record from East Kazakhstan Region.

Rhopalus maculatus (Fieber, 1837)

Material. Korobiha Vill., 4.07.2017 (G. Kuftina, E. Nepaeva), 1 female.

Distribution. Trans-Euroasian. Recorded from the East Kazakhstan Region (Asanova 1986, V.G. Putshkov 1986).

Rhopalus subrufus (Gmelin, 1790)

Material. Ushbulak Mts., 6 km NW of Kyzylzhuldyz Vill., H = 690 m, 2–4.05.2019, 1 male.

Distribution. West-Central Palearctic. Recorded from the East Kazakhstan Region (Asanova 1986, V.G. Putshkov 1986).

Stictopleurus abutilon (Rossi, 1790)

Material. Katon-Karagai, H = 1050 m, 3.07.2017 (G. Kuftina, E. Nepaeva), 1 female; 24 km NNW of Karabulak Vill., H = 360 m, 4–5.05.2019, 1 male.

Distribution. West-Central Palearctic. Recorded from the East Kazakhstan Region (Asanova 1986, Esenbekova 2013).

Stictopleurus crassicornis (Linnaeus, 1758)

Material. Shemonaikha Town, H = 317–326 m, 8–16.08.2018 (V. Rudoi), 1 male, 4 females; 20 km SEE of Zaisan Town, H =1225–1250 m, 20.06.2018, 1 male, 1 female; Markakol' Lake, near Matombaj Vill., H = 1460 m, 28.06.2018, 1 male; 24 km NNW of Karabulak Vill., H = 360 m, 4–5.05.2019, 1 male.

Distribution. Trans-Euroasian. Recorded from the East Kazakhstan Region (Asanova 1986).

Stictopleurus punctatonervosus (Goeze, 1778)

Material. Shemonaikha Town, H = 324 m, 12.08.2018 (V. Rudoi), 1 male; Arasantau Mts., 11 km. ESE of Karabulak Vill., H = 630 m, 5–7.05.2019, 1 female.

Distribution. Transpaleartcic. Recorded from the East Kazakhstan Region (Asanova 1986, Esenbekova 2013).

Stictopleurus unicolor (Jakovlev, 1873)

Material. 24 km NNW of Karabulak Vill., H = 360 m, 4–5.05.2019, 2 males.

Distribution. Sic-Black Sea-Kazakhstan steppe. Recorded from the East Kazakhstan Region (Asanova 1986, V.G. Putshkov 1986, Esenbekova 2013).

Chrosoma schillingi (Shilling, 1829)

Material. Shemonaikha Town, H = 315–326 m, 16–28.08.2016 (V. Rudoi), 6 males, 4 females.

Distribution. West-Central Palearctic. Recorded from the East Kazakhstan Region (Asanova 1986, Esenbekova 2013).

Myrmus miriformis miriformis (Fallén, 1807)

Material. Topkain Vill., 4.07.2017 (G. Kuftina, E. Nepaeva),1 female; Uryl Vill., H = 1057 m, 7.07.2017 (G. Kuftina, E. Nepaeva), 1 female; Katon-Karagai, H = 1050 m, 3.07.2017 (G. Kuftina, E. Nepaeva), 1 female.

Distribution. Trans-Euroasian. Recorded from the East Kazakhstan Region (Asanova 1986, Esenbekova 2013).

Family Acanthosomatidae Signoret, 1864

Acanthosoma denticaudum (Jakovlev, 1880)

(Figs 15, 16)

Material. Saur Mts., Kenderlik River Valley (left bank), 2 km W of Kenderlik Vill., H = 740 m, 24.06.2018, 1 male.

Distribution. South Siberian-Far Eastern. First record from East Kazakhstan Region.

Acanthosoma spinicolle Jakovlev, 1880

Material. 20 km SEE of Zaisan Town, H = 1225–1250 m, 20.06.2018, 1 male, 1 female.

Distribution. East Palearctic. Recorded from the East Kazakhstan Region (Esenbekova 2013).

Acanthosoma haemorrhoidalis (Linnaeus, 1758)

Material. 20 km SEE of Zaisan Town, H = 1225–1250 m, 20.06.2018, 2 males.

Distribution. Transpaleartcic. Recorded from the East Kazakhstan Region (Esenbekova 2013).

Elasmostethus brevis Lindberg, 1934

Material. 20 km SEE of Zaisan Town, H = 1225–1250 m, 20.06.2018, 1 female; Saur Mts., Kenderlik River Valley (left bank), 2 km W of Kenderlik Vill., H = 740 m, 24.06.2018, 1 male, 2 females.

Distribution. Holarctic. Recorded from the East Kazakhstan Region (Asanova 1986, Esenbekova 2013).

Family Cydnidae Billberg, 1820

Tritomegas bicolor (Linnaeus, 1758)

Material. Uryl Vill., Rakhman's spring, H = 1886 m, 9.07.2017 (G. Kuftina, E. Nepaeva), 2 females; Saur Mts., Mt. Tas, 47°16'N, 85°04'E, H = 2230–2400 m, 21–23.06.2018, 1 female.

Distribution. Transpaleartcic. Recorded from the East Kazakhstan Region (Asanova 1986, Esenbekova 2013).

Family Scutelleridae Leach, 1815

Odontoscelis fuliginosa (Linnaeus, 1761)

Material. Ushbulak Mts., 6 km NW of Kyzylzhuldyz Vill., H = 690 m, 2–4.05.2019, 1 female.

Distribution. West-Central Palearctic. Recorded from the East Kazakhstan Region (Esenbekova 2013).

Odontotarsus purpureolineatus (Rossi, 1790)

Material. Shemonaikha Town, H = 326 m, 16.08.2018 (V. Rudoi), 1 male; 20 km SEE of Zaisan Town, H = 1225–1250 m, 20.06.2018, 1 male, 2 females; Ushbulak Mts., 6 km NW of Kyzylzhuldyz Vill., H = 690 m, 2–4.05.2019, 2 males, 5 females

Distribution. West-Central Palaearctic. Recorded from the East Kazakhstan Region (Esenbekova 2013).

Eurygaster dilaticollis Dohrn, 1860

Material. 20 km SEE of Zaisan Town, H = 1225–1250 m, 20.06.2018, 1 male; Kyzylbeltay Mts., 5 km SW of Nekrasovka Vill., H = 1100 m, 5–7.05.2019, 1 female.

Distribution. Euroasian steppe. Recorded from the East Kazakhstan Region (Asanova 1986).

Eurygaster testudinaria testudinaria (Geoffroy, 1785)

Material. Topkain Vill., 4.07.2017 (G. Kuftina, E. Nepaeva), 1 male; Uryl Vill., H = 1057 m, 7.07.2017 (G. Kuftina, E. Nepaeva), 1 male; 20 km SEE of Zaisan Town, H = 1225–1250 m, 20.06.2018, 1 male.

Distribution. Transpaleartcic. Recorded from the East Kazakhstan Region (Asanova 1986).

Psacasta examthematica (Scopoli, 1763)

Material. Arasantau Mts., 11 km ESE of Karabulak Vill., H = 630 m. 5–7.05.2019, 1 female.

Distribution. West-Central Palearctic. In Kazakhstan distributed the eastern subspecies *P. examthematica conspersa* Germar, 1839. Recorded from the East Kazakhstan Region (Asanova 1986).

Family Pentatomidae Leach, 1815

Picromerus bidens (Linnaeus, 1758)

Material. 15 km SSW of Karabulak Vill., H = 800 m, 26.06.2018, 1 female.

Distribution. Holarctic. Recorded from the East Kazakhstan Region (Asanova 1986, Esenbekova 2013).

Zicrona caerulea (Linnaeus, 1758)

Material. Saur Mts., Mt. Tas, 47°16'N, 85°04'E, H = 2230–2400 m, 21–23.06.2018, 1 male, 1 female.

Distribution. Holarctic & Oriental. Recorded from the East Kazakhstan Region (Asanova 1986).

Aelia acuminata (Linnaeus, 1758)

Material. 20 km SEE of Zaisan Town, H =1225–1250 m, 20.06.2018, 1 female.

Distribution. West-Central Palearctic. Recorded from the East Kazakhstan Region (Asanova 1986).

Aelia furcula Fieber, 1868

Material. Kyzylbeltay Mts., 5 km SW of Nekrasovka Vill., H = 1100 m, 5–7.05.2019, 4 males, 7 females; Saur Mts., Kenderlik River Valley (left bank), 2 km W of Kenderlik Vill., H = 740 m, 24.06.2018, 1 male.

Distribution. European-Irano-Turanian. Recorded from the East Kazakhstan Region (Asanova 1986, Esenbekova 2013).

Neottiglossa leporina (Herrich-Scaeffer, 1830)

Material. Shemonaikha Town, H = 317–326 m, 1.08.2016–8.08.2018 (V. Rudoi), 8 males, 6 females; Uryl Vill., H = 1057 m, 7.07.2017 (G. Kuftina, E. Nepaeva), 1 male; Katon-Karagai, H = 1050 m, 3.07.2017 (G. Kuftina, E. Nepaeva), 1 female; Kalba

Mts., 40 km NW of Kokpekty Vill., H = 760 m, 19.06.2018, 2 males; 20 km SEE of Zaisan Town, H = 1225–1250 m, 20.06.2018, 1 female.

Distribution. Trans-Euroasian. Recorded from the East Kazakhstan Region (Asanova 1986).

Neottiglossa pusilla (Gmelin, 1790)

Material. 20 km SEE of Zaisan Town, 47°22'N; 85°09'E, H = 1225–1250 m, 20.06.2018, 1 female.

Distribution. Trans-Euroasian. Recorded from the East Kazakhstan Region (Asanova 1986).

Antheminia lunulata (Goeze, 1778)

Material. Shemonaikha Town, H = 326 m, 16.08.2018 (V. Rudoi), 1 male; Katon-Karagai, H = 1050 m, 3.07.2017 (G. Kuftina, E. Nepaeva),1 male; Arasantau Mts., 11 km ESE of Karabulak Vill., H = 630 m 5–7.05.2019, 1 male; Kyzylbeltay Mts., 5 km SW of Nekrasovka Vill., H = 1100 m, 5–7.05.2019, 2 males, 2 females.

Distribution. West-Central Palearctic. Recorded from the East Kazakhstan Region (Asanova 1986).

Brachynema germarii (Kolenati, 1846)

Material. 15 km SSW of Karabulak Vill., H = 800 m, 26.06.2018, 1 male, 2 females.

Distribution. Mediterranean-Gobian. Recorded from the East Kazakhstan Region (Asanova 1986, Esenbekova 2013).

Carpocoris coreanus Distant, 1899

Material. Shemonaikha Town, H = 317–326 m, 8.08.2018 (V. Rudoi), 1 male, 1 female; 15 km SSW of Karabulak Vill., H = 800 m, 26.06.2018, 1 male, 1 female.

Distribution. Irano-Turano-Siberian. Recorded from the East Kazakhstan Region (Asanova 1986).

Carpocoris fuscispinus (Boheman, 1851)

Material. Katon-Karagai State National Nature park, H = 1050 m, 3.07.2017 (G. Kuftina, E. Nepaeva), 1 male; Kyzylbeltay Mts., 5 km SW of Nekrasovka Vill., H = 1100 m, 8–10.05.2019, 4 males, 2 females; Emel River Valley, 24 km NNW of Karabulak Vill., H = 360 m, 4–5.05.2019, 1 male; 20 km SEE of Zaisan Town, H = 1225–1250 m, 20.06.2018, 1 female.

Distribution. West-Central Palearctic. Recorded from the East Kazakhstan Region (Asanova 1986).

Carpocoris purpureipennis (De Geer, 1773)

Material. Shemonaikha Town, H = 317 m, 8.08.2018 (V. Rudoi), 2 females; Markakol' Lake, near Matombaj Vill., H = 1460 m, 28.06.2018, 1 male, 1 female; Tarbagatai & Sarym-Sakty Mts., Burkhat pass, 49°07'N, 86°01'E, H = 2130–2200 m, 2.07.2018, 1 male, 1 female; Kara-Kaba River Valley, 48°57'N; 86°05'E, H = 1450 m, 1.07.2018, 1 male, 3 females.

Distribution. Transpaleartcic. Recorded from the East Kazakhstan Region (Asanova 1986).

Codophila varia varia (Fabricius, 1787)

Material. 24 km NNW of Karabulak Vill., H = 360 m, 4–5.05.2019, 1 male.

Distribution. West-Central Palearctic. Recorded from the East Kazakhstan Region (Asanova 1986).

Dolycoris baccarum (Linnaeus, 1758)

Material. Topkain Vill., 4.07.2017 (G. Kuftina, E. Nepaeva), 1 female; Berelsk Vill., H = 1856 m, 6.09.2017 (G. Amanbaeva), 1 female.

Distribution. Transpaleartcic. Recorded from the East Kazakhstan Region (Asanova 1986, Esenbekova 2013).

Dolycoris penicillatus Horváth, 1904

Material. Ushbulak Mts., 6 km NW of Kyzylzhuldyz Vill., H = 690 m, 2–4.05.2019, 1 male, 2 females. Kyzylbeltay Mts., 5 km SW of Nekrasovka Vill., H = 1100 m, 5–07.05.2019, 1 male.

Distribution. Irano-Turanian. Recorded from the East Kazakhstan Region (Asanova 1986, Esenbekova 2013).

Peribalus strictus vernalis (Wolff, 1804)

Material. Topkain Vill., 4.07.2017 (G. Kuftina, E. Nepaeva), 1 female; Tarbagatai & Sarym-Sakty Mts., Burkhat pass, 49°07'N, 86°01'E, H = 2130–2200 m, 2.07.2018, 1 female.

Distribution. Transpaleartcic. Recorded from the East Kazakhstan Region (Asanova 1986, Esenbekova 2013).

Palomena prasina (Linnaeus, 1761)

Material. Uryl Vill., H = 1127 m, 7.07.2017 (G. Kuftina, E. Nepaeva), 1 male.

Distribution. Transpaleartcic. Recorded from the East Kazakhstan Region (Asanova 1986).

***Rubiconia peltata* Jakovlev, 1890**
Figures 17, 18

Material. 20 km SEE of Zaisan Town, H = 1225–1250 m, 20.06.2018, 1 male, 6 females.

Distribution. East Palearctic. First record from East Kazakhstan Region.

***Piezodorus lituratus* (Fabricius, 1794)**

Material. Topkain Vill., 4.07.2017 (G. Kuftina, E. Nepaeva), 1 male; Kyzylbeltay Mts., 5 km SW of Nekrasovka Vill., H = 1100 m, 5–07.05.2019, 2 males, 1 female.

Distribution. West-Central Palearctic. Recorded from the East Kazakhstan Region (Asanova 1986, Esenbekova 2013).

***Sciocoris cursitans cursitans* (Fabricius, 1794)**

Material. 20 km SEE of Zaisan Town, H = 1225–1250 m, 20.06.2018, 1 male, 2 females; Kyzylbeltay Mts., 5 km SW of Nekrasovka Vill., H = 1100 m, 5–07.05.2019, 2 females.

Distribution. West-Central Palearctic. Recorded from the East Kazakhstan Region (Esenbekova 2013).

***Eurydema oleracea* (Linnaeus, 1758)**

Material. Shemonaikha Town, H = 326 m, 16.08.2018 (V. Rudoi), 2 females; Topkain Vill., 4.07.2017 (G. Kuftina, E. Nepaeva), 1 male; Kyzylbeltay Mts., 5 km SW of Nekrasovka Vill., H = 1100 m, 8–10.05.2019, 2 males, 5 females; Emel River Valley, 24 km NNW of Karabulak Vill., H = 360 m, 4–5.05.2019, 1 male, 2 females; Karaberik Mts., 40 km S of Karatogai Vill., H = 500 m, 12.05.2019, 1 male; 20 km SEE of Zaisan Town, H = 1225–1250 m, 20.06.2018, 4 females.

Distribution. West-Central Palearctic. Recorded from the East Kazakhstan Region (Asanova 1986, Esenbekova 2013).

***Eurydema ornata* (Linnaeus, 1758)**

Material. Shemonaikha Town, H = 316–326 m, 1.08.2016–18.06.2018 (V. Rudoi), 4 males, 6 females; Kyzylbeltay Mts., 5 km SW of Nekrasovka Vill., H = 1100 m, 5–7.05.2019, 4 males, 7 females; Karaberik Mts., 40 km S of Karatogai Vill., H = 500 m, 12.05.2019, 2 males, 3 females; Urdzhar, H = 300 m, 4.05.2019, 5 males, 1 female; 24 km NNW of Karabulak Vill., H = 360 m, 4–5.05.2019, 2 females; Ushbulak Mts., 6 km NW of Kyzylzhuldyz Vill., H = 690 m, 2–4.05.2019, 1 male; Emel River Valley, 24 km NNW of Karabulak Vill., H = 360 m, 4–5.05.2019, 4 males, 2 females.

Distribution. West-Central Palearctic. Recorded from the East Kazakhstan Region (Asanova 1986, Esenbekova 2013).

Eurydema ventralis Kolenati, 1846

Material. Kyzylbeltay Mts., 5 km SW of Nekrasovka Vill., H = 1100 m, 8–10.05.2019, 3 males, 2 females; Urdzhar, H = 300 m, 4.05.2019, 6 males, 3 females.

Distribution. West-Central Palearctic. Recorded from the East Kazakhstan Region (Asanova 1986, Esenbekova 2013).

Eurydema fieberi Fieber, 1837

(Fig. 19)

Material. Kyzylbeltay Mts., 5 km SW of Nekrasovka Vill., H = 1100 m, 8–10.05.2019, 1 female.

Distribution. West-Central Palearctic. First record from East Kazakhstan Region.

Graphosoma lineatum (Linneaus, 1758)

Material. Uryl Vill., Rakhman's spring, H = 1127 m, 7.07.2017 (G. Kuftina, E. Nepaeva), 1 male; 20 km SEE of Zaisan Town, H = 1225–1250 m, 20.06.2018, 1 female; Saur Mts., Kenderlik River Valley (left bank), 2 km W of Kenderlik Vill., H = 740 m, 24.06.2018, 2 males, 2 females.

Distribution. West-Central Palearctic. Recorded from the East Kazakhstan Region (Asanova 1986, Esenbekova 2013).

Leprosoma inconspicuum Baerensprung, 1859

Material. Ushbulak Mts., 6 km NW of Kyzylzhuldyz Vill., H = 690 m, 2–4.05.2019, 1 female.

Distribution. West-Central Palearctic. First record from East Kazakhstan Region.

Conclusion

The heteropterous fauna of Kazakhstan is highly diverse and comprises, according to published data (Catalogue… 1995–2006; Esenbekova 2013), 1250 species in 411 genera of 35 families. Kazakhstan scientists (Asanova 1974, 1986; Esenbekova, Bekmurzaev 2007; Esenbekova, Kemelkhanova 2008; Esenbekova 2011, 2013; Esenbekova, Ashimova 2011) reported 439 species of 25 families from East Kazakhstan, which implies insufficient knowledge of this important group in the region, given that it includes agriculture pests, some of them dangerous.

Data on the Heteroptera of East Kazakhstan are scattered in a number of taxonomic revisions and monographs on the fauna of the former USSR. In the Saldidae, Cobben (1985) described the subspecies *Macrosaldula oblonga acetabularis* Cobben, 1985 from the Saur foothills, and Vinokurov (2009), *Teloleuca altaica* Vi-

n*okurov, 2009 from South* Altai. These authors also have recorded Macrosald*ula jakowle*ffii (Reuter, 1891) from the Saur (Cobben, 1985), and M. simulans Cobben, 1985, from South Altai (Vinokurov, 2014).

Kerzhner (1976) and Elov (1977) report for this territory in the*ir publications on* the flower bugs of Kazakhstan and Middle Asia *Anthocoris limbatus Fieber, 1836 (Shamonaikha; Bukhtarma River), A. nemorum* (Linnaeus, 1761) (Katon-Karagai; Lake Markakol'), *Temnostethus reduvinus* (Herrich-Schaeffer, 1850) (Saur), *Orius niger* Wolff, 1804 and *O. horvathi* (Reuter, 1884), *Xylocoris tesquorum* Kerzhner & Elov, 1976 (Burna, Kaldzhir mouth, Zaisan).

Of the Miridae, *Eumecotarsus breviceps* (Reuter, 1878) and *Criocoris quadrimaculatus* (Fallén, 1807) were mentioned (Kerzhner 1962, 1984) and two *Orthocephalus* species – *O. bivittatus* Fieber, 1864 and *O. vittipennis* (Herrich-Schaeffer, 1835) (Namyatova, Konstantinov 2009). Several species, some of them new to science, have been found in the Saur Mt. Range: *Phytocoris sauricus* Muminov, 1998; *Tuponia soongorica* Drapolyuk, 1980; *Atomophora maculosa* Reuter, 1903; *Solenoxyphus candidatus* (Reuter, 1879); *S. lepidus* (Puton, 1874); *Pleuroxonotus stysi* Konstantinov, 2008; *Ethelastia liturata* (Fieber, 1858) (Drapolyuk 1980; Muminov 1998; Konstantinov 2000, 2008a, b, c).

Data on three species of the lace bugs (Tingidae) – *Galeatus spinifrons* (Fallén, 1807), *Physatocheila putshkovi* Golub 1976 and *Ph. distinguenda* Jakovlev, 1880 – were published by Golub (1974, 1976). P.V. Putshkov (1982, 1987) has recorded five species of the assassin bugs (Reduviidae): *Empicoris culiciformis* (De Geer, 1773); *Coranus aethiops* Jakovlev, 1893; *C. contraris* Reuter, 1881; *C. laticeps* Wagner, 1952 and *C. woodroffei* P.V. Putshkov, 1982. Based on the collection of the Zoological Institute of the Russian Academy of Sciences, a dangerous cereal pest, the Sunn pest *Eurygaster integriceps* Puton, 1881 of the family Scutelleridae was recorded from southern East Kazakhstan (Neimorovets et al. 2006).

In this paper, data on the distribution of 101 widespread water and land horto-, thamno- and dendrobiont species from 16 Heteroptera families in the East Kazakhstan Region are reported.

Twelve species are recorded for the first time from the study area: *Nabis nigrovittatus steppensis* Kerzh. (Nabidae), *Deraeocoris ater* Jak., *Orthops mutans* Stål, *Oncotylus setulosus* H.-S. (Miridae), *Dictyla humuli* F. (Tingidae), *Coranus aethiops* Jak. (Reduviidae), *Aradus crenaticollis* R. F. Sahlb. (Aradidae), *Horvathiolus superbus* Poll., *Acompus rufipes* Wolff (Lygaeidae), *Acanthosoma denticaudum* Jak. (Acanthosomatidae), *Rubiconia peltata* Jak., *Eurydema fieberi* Fieb. (Pentatomidae).

Thus, the heteropterous fauna of the East Kazakhstan Region, based on the published data and those given in this paper, comprises 482 species of 25 families.

Acknowledgements

The authors give their thanks to the scientific head of this study, Professor R.V. Yakovlev, Altai State University, and the students G.M. Amanbayeva, A.U. Gabdulina, V.V. Doroshkin, Yu.V. Dyachkov, A.A. Fomichev, G.N. Kuftina, A.E. Naidenov and

E.A. Nepaeva for help in collecting the material. The study of N.N. Vinokurov was funded by the basic project of the Siberian Branch of the Russian Academy of Sciences no. AAAAA-A17-117020110058-4 (2017–2020) and by the grant from the Russian Foundation for Basic Research no. 18-04-00464 (2018–2021).

References

Asanova RB (1974) True bugs (Heteroptera) of East Kazakhstan. Trudy Instituta zoologii AN Kazakhskoi SSR 35: 63–70 [in Russian]

Asanova RB (1986) True bugs (Heteroptera) of East Kazakhstan. Insects of South and East Kazakhstan, Alma-Ata: 45–101 [in Russian]

Asanova RB (1996) Heteroptera of Kazakhstan. Infraorder Pentatomomorpha. Part 1–2. Almaty: Institut zoologii i genofonda zhivotnykh NAN RK [in Russian]

Aukema B, Rieger Ch (Eds.) (1995–2006) Catalogue of the Heteroptera of the Palaearctic Region. Amsterdam: The Netherlands Entomological Society. (Vol. 1. 1995. 222 p; Vol. 2. 1996. 361 p.; Vol. 3. 1999. 577 p.; Vol. 4. 2001. 346 p.; Vol. 5. 2006. 550 p.)

Drapolyuk IS (1980) Review of capsid bugs of the subgenus *Chlorotuponia* (Heteroptera. Miridae) from the USSR and Mongolia. Nasekomye Mongolii. Leningrad: Nauka, 8: 148–183 [in Russian]

Elov ES (1976) Bugs of the family Anthocoridae (Heteroptera) from Middle Asia and Kazakhstan. Entomologicheskoe Obosrenie 55: 369–380 [in Russian]

Esenbekova PA (2007) Materials for the fauna of the Heteroptera of Markakol basin. Mezhdunarodnaya konferentsia «Bioraznoobrazie zhivotnogo mira Kazakhstana, problemy sokhranenia i ispol'zovania». Institut zoologii MON RK. Almaty: 14–16 [in Russian]

Esenbekova PA (2011) Ecological and faunistic review of bugs of the family Coreidae Leach, 1815 (Heteroptera) of Kazakhstan. Regional'nyi vestnik Vostoka (Ust'-Kamenogorsk) 3: 39–44 [in Russian]

Esenbekova PA (2013) True bugs (Heteroptera) of Kazakhstan. Almaty: Nur-Print [in Russian]

Esenbekova PA, Ashimova GD (2011) To the fauna of aquatic bugs (Heteroptera) of the Alakolsky Reserve. Poisk (Almaty) 4: 45–49 [in Russian].

Esenbekova PA, Bekmurzaev NB (2007) Schield bugs (Hemiptera. Pentatomidae) of the Alakolsky Reserve. Vestnik Kazakhskogo National'nogo universiteta. Seria biologicheskaya 5(35): 90–93 [in Russian]

Esenbekova PA, Kemelkhanova EK (2008) To the fauna of terrestrial bugs (Heteroptera) of the Alakolsky Reserve. Trudy Alakol'skogo zapovednika 2: 75–82 [in Russian]

Fasulati KK (1971) Field investigation of terrestrial invertebrates. Moscow [in Russian]

Golub VB (1974) Lacebugs of the genus *Galeatus* (Heteroptera, Tingidae) in the fauna of the USSR and Mongolia. Entomologicheskoe Obozrenie 53(2): 362–372 [in Russian]Golub VB (1976) Lacebugs of the genus *Physatocheila* Fieb. (Heteroptera, Tingidae) of the fauna of the USSR. Trudy Zoologicheskogo Instituta Akademii Nauk SSSR 67: 22–29 [in Russian]

Golub VB, Tsurikov MN, Prokin AA (2012) Kollektsii nasekomykh: sbor, obrabotka i khranenie materiala (Insect collections: material collection, treatment and storage), Moscow [in Russian]

Kerzhner IM (1962) Materials on the taxonomy of capsid bugs (Hemiptera, Miridae) in the fauna of the USSR. Entomologicheskoe Obozrenie 41: 372–387 [in Russian]

Kerzhner IM (1964) New and little-known bugs (Hemiptera) from Kazakhstan and other regions of the USSR. Trudy Zoologicheskogo Instituta Akademii Nauk SSSR 34: 113–130 [in Russian]

Kerzhner IM (1981) Bugs of the family Nabidae. Fauna SSSR (N.S., 124) Rhynchota, 13(2). Leningrad: Nauka. [in Russian]

Kerzhner IM (1984) New and little-known species of Heteroptera from Mongolia and adjacent regions of the USSR. IV. Miridae, 1. Nasekomye Mongolii Leningrad: Nauka, 9: 35–72 [in Russian]

Kerzhner IM, Elov ES (1976) Bugs of the genus *Xylocoris* Duf. from the subgenus *Proxylocoris* Carayon (Heteroptera. Anthocoridae) of the fauna of the USSR and adjacent regions. Enfomologicheskoe Obozrenie 55: 364–368 [in Russian]

Konstantinov FV (2000) Capsid Bugs of the Genus *Atomophora* Reut. (Heteroptera, Miridae) in the Fauna of Russia and Adjacent Countries. Entomological Review 80(1): 1–8.

Konstantinov FV (2008a) Review of *Solenoxyphus* Reuter, 1875 (Heteroptera: Miridae: Phylinae). American Museum novitates 3607: 1–44

Konstantinov FV (2008b) Review of *Ethelastia* Reuter (Heteroptera: Miridae: Phylinae). Insect Systematics and Evolution 39: 213–222

Konstantinov FV (2008c) Three new species of Phylini (Hemiptera: Heteroptera: Miridae: Phylinae) from Central Asia. Acta Entomologica Musei Nationalis Pragae 48(2): 403–418

Muminov NN (1998) Species of the genus *Phytocoris* Fall. from Kazakhstan and middle Asia (Heteroptera: Miridae). Zoosystematica Rossica 7(2): 273–282.

Namyatova AA, Konstantinov FV (2009) Revision of the genus *Orthocephalus* Fieber, 1858 (Hemiptera: Heteroptera: Miridae). Zootaxa 2316: 1–118

Neimorovets VV (2006) On the synonymy and distribution of the bugs *Trapezonotus dispar* Stål and *T. desertus* Seidenstiicker (Heteroptera, Lygaeidae). Entomologicheskoe Obozrenie 85: 162–166 [in Russian]

Neimorovets VV, Grichanov IYa, Ovsyannikova EI, Saulich MI (2006) Area and zones of harmfullness of *Eurygaster integriceps* Puton (Heteroptera, Scutelleridae). Vestnik zashchity rastenii 4: 27–31 [in Russian]

Putshkov PV (1982a) New and little-known species of the genus *Coranus* (Heteroptera, Reduviidae) from the USSR and Mongolia. Nasekomye Mongolii 8, Leningrad: Nauka: 190–199 [in Russian]

Putshkov PV (1987) Reduviidae. Fauna Ukrainy 21(5), Kiev: Naukova dumka [in Russian]

Putshkov VG (1965) Shield bugs of Middle Asia. Frunze: Ilym [in Russian]

Putshkov VG (1986) Bugs of the family Rhopalidae (Heteroptera) of the fauna of the USSR. Leningrad: Nauka (Opredeliteli po faune SSSR, 146) [in Russian]

Sidorenko AV (1957) Geology of the USSSR. Moscow: Nedra 41(1), 1–457 [in Russian]

Vinokurov NN (2009) A Review of Species of the Genus *Teloleuca* (Heteroptera, Saldidae) in the Fauna of Russia and Adjacent Territories. Zoologicheskii Zhurnal 89(10): 1189–2000 [in Russian]

Vinokurov NN (2010) Species of the genus *Salda* F. (Heteroptera, Saldidae) of the fauna of Russia and adjacent territories. Entomologicheskoe Obozrenie 89(2): 423–437 [in Russian]

Vinokurov NN (2014) Review of the genus *Macrosaldula* Southwood et Leston, 1959 (Heteroptera, Saldidae) of the fauna of Russia and adjacent countries. Entomologicheskoe Obozrenie 93(1): 151–173 [in Russian]